

Paris Terrorist Attack: Black Swan or Perfect Storm?

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On Friday, 13 November 2015, France suffered the worst terrorist attack in its modern history as Islamic State (IS) gunmen and suicide bombers simultaneously attacked the Bataclan concert hall, Stade de France football stadium, and restaurants and bars in Paris's popular nightlife spots, leaving some 130 people dead and hundreds seriously injured.

As France, and indeed the rest of the world, seeks to make sense of this terrible event, two questions dominate the discussion, and indeed the headlines: [could the attack have been prevented](#) and what can we do to [protect ourselves against future occurrences](#)?

The answers, it seems to me, depends on whether or not one regards such events as *Black Swans* or *Perfect Storms*.

Black Swans are rare events that carry extreme impact, occur outside the realm of our regular expectations because nothing in the past could have alerted us to its possibility, and are subjected to *ex post facto* analysis in an attempt to make them explainable and predictable. *Perfect Storms* are a conjunction of rare but known events, where each individual contributing factor is in itself powerful enough to create a devastating and seemingly unimaginable effect.

While it is too early to tell if the terrorist attacks in Paris constitute a Black Swan or a Perfect Storm – indeed it might be too early to tell if the event had extreme impact, though the flurry of [political](#), [diplomatic](#) and [military](#) activities that has taken place in the aftermath suggests that it has (at least in the short-term) – there are considerable differences between these two concepts that result in different answers to the questions posed above.

Prevention

Black Swans are characterised by [epistemic uncertainty](#), meaning they are fundamentally unknowable owing to limitations in human cognitive abilities (especially biases relating to information selection, processing and analysis); and statistical forecasting methods, which rely on the existence of a normal distribution that arguably does not apply to high-impact events. This means that Black Swans constitute what former US Secretary of Defense Donald Rumsfeld referred to as "[unknown unknowns](#)," making them unpreventable. By that logic, the French intelligence agencies could not have predicted or prevented the occurrence of the Paris attacks, and claims to the contrary – the all-too-familiar [allegations of intelligence failures](#) that pervade the aftermath of such events – merely constitute attempts to rationalise these events with the benefit of hindsight.

Conversely, *Perfect Storms* can be predicted because the event under examination has been observed in the past. Additionally, they are based on [aleatory uncertainty](#), meaning that the probability of the occurrence of such events – generated from prior historical knowledge – can be determined based on systematic risk analysis. They can also be converted from “known unknowns” to “known knowns,” given adequate resources and changes in organisational culture. Accordingly, the Paris attacks could have been prevented because French and Western intelligence agencies had previous knowledge of the threat posed by IS and this could have been used to estimate the possibility of such an event occurring. Previous attacks in Tunisia, Turkey and Lebanon demonstrated IS’s intentions and commitment to carrying out devastating attacks on foreign soil that should have alerted intelligence agencies to the possibility that this could occur elsewhere. Additionally, even though the attack in Paris seems to have marked a [change of IS’s tactics](#) – away from consolidating a hold over its territory in the Middle East and use of ‘lone wolf’ attacks abroad in favour of a more coordinated approach – this is also not new but reminiscent of operations carried out by other terrorist groups in previous years; the most obvious example being Al Qaeda in the early 2000s.

Protection

The strategy for dealing with *Black Swans* is one that is aimed at increasing [resilience](#) in

order to safeguard against such events after they have occurred, seeing as they cannot be predicted or prevented. While this is already a key component of several countries' counter-terrorism strategies – [Canada](#), the [United Kingdom](#) and the [United States](#) all have such – it has received less public attention than strategies aimed at detecting and preventing such events, but arguably deserves a closer look. Additionally, certain measures – especially those denying terrorists the capabilities to carry out attacks – may also be useful in lessening the devastating effect of terrorist events, though it should be accepted that these may prove less effective in preventing them from occurring altogether.

The dominant strategy for handling *Perfect Storms* would be, and indeed has been, to invest considerable amounts of time and money into acquiring resources that strengthen the capacity of intelligence agencies, permitting them to make better decisions in the face of uncertainty. The UK's counter-terrorism strategy ([CONTEST](#)), which including a section detailing the government's use of science and technology in the fight against terrorists, is a prime example thereof. A second strategy has been the introduction of new laws – including Home Secretary Theresa May's [new draft Investigatory Powers Bill](#) – designed to give the police and intelligence services greater liberties to conduct online surveillance *in* the hope of identifying and stopping future terrorists in their tracks.

Yet irrespective of whether or not one considers the Paris attack to be a *Black Swan* or a *Perfect Storm* – or perhaps neither if one does not share the view that these events are rare and carry extreme impact – one thing is for certain even at this stage: the discussion concerning how to prevent and safeguard against such events is one that will not go away for some time.